In re KANEKAR ET AL., Application No. 10/630,174
Amendment A

Amendments to the Claims:

The listing of clams will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3 (cancelled)

Claim 4 (original): A method for identifying a merged lookup result, the method comprising:

identifying an access control list including a plurality of access control list entries;

identifying a first set of access control list entries corresponding to a first feature of said plurality of access control list entries;

programming a first associative memory bank and a first adjunct memory with first associative memory entries corresponding to the first set of access control list entries

identifying a second set of access control list entries corresponding to a first feature of said plurality of access control list entries; and

programming a second associative memory bank and a second adjunct memory with second associative memory entries corresponding to the second set of access control list entries;

wherein said first associative memory entries have a higher lookup precedence than said second associative memory entries.

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Claim 5 (original): The method of claim 4, comprising:

identifying a lookup value;

performing lookup operations in the first associative memory bank and the first adjunct memory to generate a first second lookup result;

performing lookup operations in the second associative memory bank and the second adjunct memory to generate a second lookup result; and

merging the first and the second lookup results to identify a merged result.

Claim 6 (original): The method of claim 5, wherein said lookup operations in the first and the second associative memory banks are performed substantially simultaneously.

Claim 7 (original): The method of claim 5, wherein if the first associate memory result corresponds to a deny operation, the merged result corresponds to a drop packet operation.

Claim 8 (original): The method of claim 5, wherein if the first associate memory result corresponds to a permit operation and the second associative memory result corresponds to a permit operation, the merged result corresponds to a permit operation.

Claim 9 (original): The method of claim 5, wherein if the first associate memory result corresponds to a permit operation and the second associative memory result corresponds to a deny operation, the merged result corresponds to a drop packet operation.

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Claim 10 (original): A method for identifying a merged lookup result, the method comprising:

identifying a packet;

identify a first lookup value;

performing substantially simultaneous lookup operations in a plurality of associative memories and adjunct memories to generate a plurality of first lookup results;

merge the plurality of first lookup results to identify a merged first result;

identify a second lookup value;

performing substantially simultaneous lookup operations in the plurality of associative memories and adjunct memories to generate a plurality of second lookup results; and

merge the plurality of second lookup results and the merged first result to identify a merged second result.

Claim 11 (original): The method of claim 10, each of the plurality of first lookup results correspond to a different feature of a first type as defined in an access control list.

Claim 12 (original): The method of claim 11, each of the plurality of second lookup results correspond to a different feature of a second type as defined in the access control list.

Claim 13 (original): The method of claim 12, wherein the first type includes a security operation and the second type includes a quality of service operation.

Claim 14 (original): The method of claim 10, wherein the first lookup value includes at least one autonomous system number, said at least one autonomous system number identify a set of communication devices under a single administrative authority

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Claim 15 (original): A computer-readable medium containing computer-executable instructions for performing steps for identifying a merged lookup result, said steps comprising:

identifying an access control list including a plurality of access control list entries;

identifying a first set of access control list entries corresponding to a first feature of said plurality of access control list entries;

programming a first associative memory bank and a first adjunct memory with first associative memory entries corresponding to the first set of access control list entries

identifying a second set of access control list entries corresponding to a first feature of said plurality of access control list entries; and

programming a second associative memory bank and a second adjunct memory with second associative memory entries corresponding to the second set of access control list entries;

wherein said first associative memory entries have a higher lookup precedence than said second associative memory entries.

Claim 16 (original): The computer-readable medium of claim 15, wherein said steps comprise:

identifying a lookup value;

performing lookup operations in the first associative memory bank and the first adjunct memory to generate a first second lookup result;

performing lookup operations in the second associative memory bank and the second adjunct memory to generate a second lookup result; and

merging the first and the second lookup results to identify a merged result.

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Claim 17 (original): The computer-readable medium of claim 16, wherein if the first associate memory result corresponds to a deny operation, the merged result corresponds to a drop packet operation.

Claim 18 (original): The computer-readable medium of claim 16, wherein if the first associate memory result corresponds to a permit operation and the second associative memory result corresponds to a permit operation, the merged result corresponds to a permit operation.

Claim 19 (original): The computer-readable medium of claim 16, wherein if the first associate memory result corresponds to a permit operation and the second associative memory result corresponds to a deny operation, the merged result corresponds to a drop packet operation.

Claim 20 (original): An apparatus for identifying a merged lookup result, the apparatus comprising:

means for identifying an access control list including a plurality of access control identifying an access control list including a plurality of access control list entries;

means for identifying a first set of access control list entries corresponding to a first feature of said plurality of access control list entries;

means for programming a first associative memory bank and a first adjunct memory with first associative memory entries corresponding to the first set of access control list entries

means for identifying a second set of access control list entries corresponding to a first feature of said plurality of access control list entries; and

means for programming a second associative memory bank and a second adjunct memory with second associative memory entries corresponding to the second set of access control list entries;

wherein said first associative memory entries have a higher lookup precedence than said second associative memory entries.

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Claim 21 (original): The apparatus of claim 20, comprising:

means for identifying a lookup value;

means for performing lookup operations in the first associative memory bank and the first adjunct memory to generate a first second lookup result;

means for performing lookup operations in the second associative memory bank and the second adjunct memory to generate a second lookup result; and

means for merging the first and the second lookup results to identify a merged result.

22 (original): An apparatus for identifying a merged lookup result, the apparatus comprising:

means for identifying a packet;

means for identify a first lookup value;

means for performing substantially simultaneous lookup operations in a plurality of associative memories and adjunct memories to generate a plurality of first lookup results;

means for merge the plurality of first lookup results to identify a merged first result;

means for identify a second lookup value;

means for performing substantially simultaneous lookup operations in the plurality of associative memories and adjunct memories to generate a plurality of second lookup results; and

means for merge the plurality of second lookup results and the merged first result to identify a merged second result.

Claim 23 (original): The apparatus of claim 22, wherein:

each of the plurality of first lookup results correspond to a different feature of a first type as defined in an access control list; and

each of the plurality of second lookup results correspond to a different feature of a second type as defined in the access control list.

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